Meteorological Products Working Group Report

Meteorological Products Working Group

1:00 pm	Introduction, Agenda, Previews	Manney (5 Min)
1:05 pm	NCEP Datasets Update	Long (20 min)
1:25 pm	GMAO Update, GEOS-4 Issues, GEOS-5 Plans	Pawson (20 min)
1:50 pm	Data Center Products Discussion/questions	All (10 min)
2:00 pm	Aura Teams' MP Usage/Experiences (Brief presentations by () for each team) – HIRDLS (Kinnison) – OMI (Kroon, Cunnold/Wang) – TES (Osterman) – MLS (Manney) – Discussion (All)	All (60 min)

NCEP & GMAO News/Status

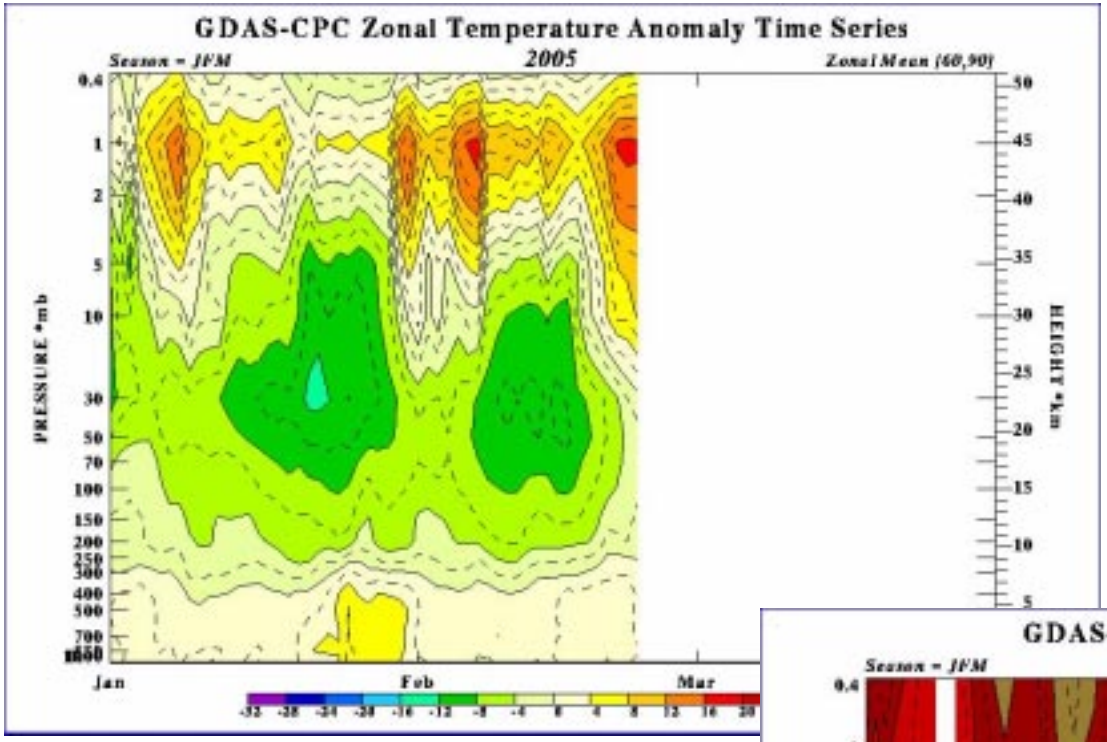
NCEP – Craig Long:

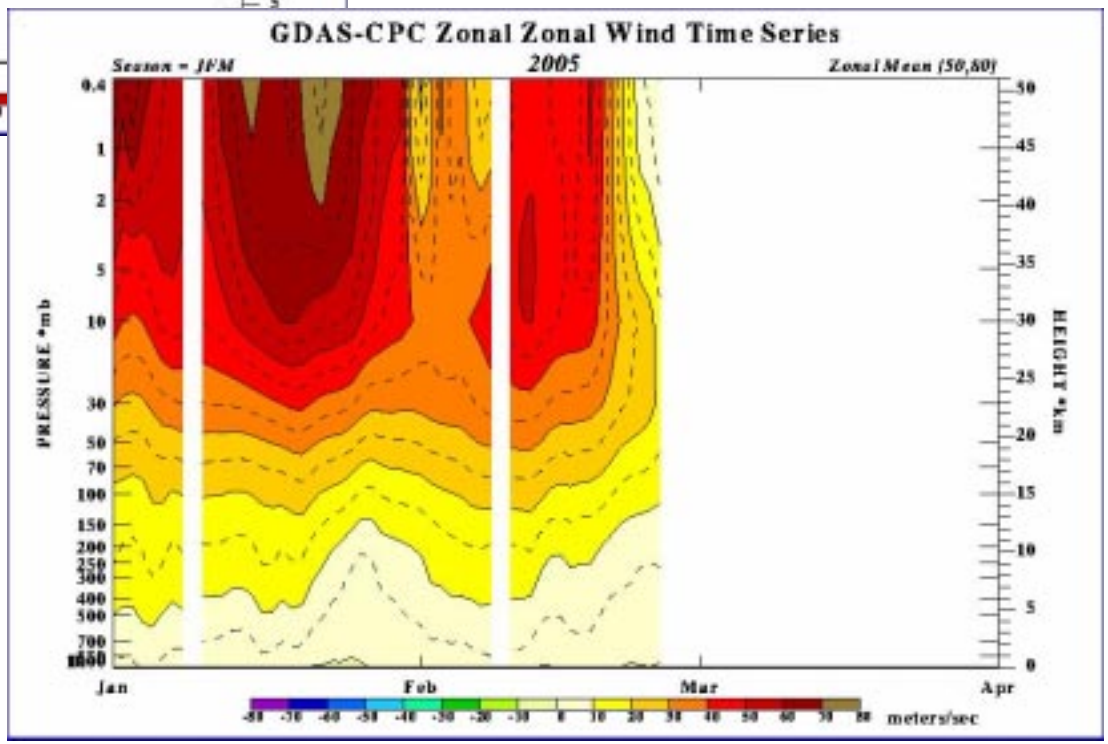
- Troubles with AMSU-A instruments since January on NOAA-15 (some bad channels), NOAA-16 (noise), NOAA-17 (AMSU-A died) – affect both NCEP and GMAO analyses
- NCEP will assimilate Aqua AMSU-A and AIRS data to compensate
- NCEP moving to “unified analysis system” that spans regional to global models
- Increasing forecast model resolution
- Examples of NCEP analyses from this – unusual – Arctic winter

GMAO – Steven Pawson

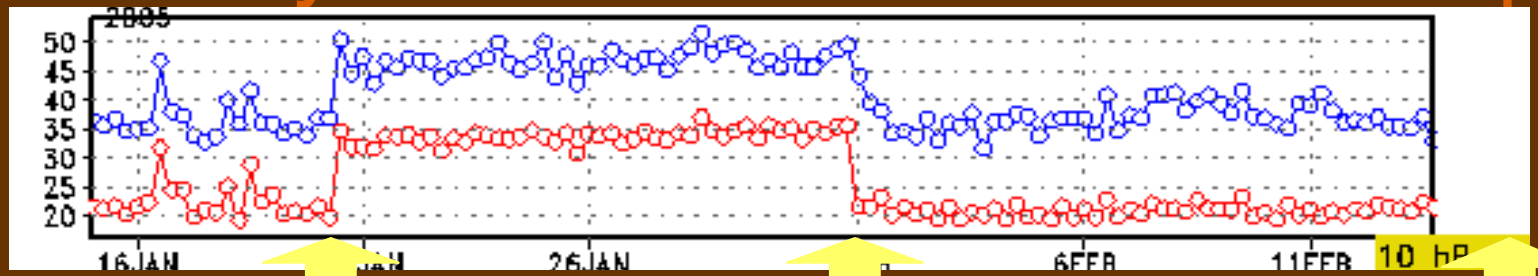
- Operations – Generally good reports on throughput/delivery from Aura teams
- Effects of/response to NOAA satellite AMSU-A trouble in GEOS-4 analyses
- GEOS-5 status report – in development and testing, soon to begin a parallel run
- Development of evaluations metrics – previously focused on “system performance”; now starting to validate against in situ and other data, for both GEOS-4 and GEOS-5

NCEP NH 2004-2005 Winter Examples





January 2005 Data Issues: Stratosphere

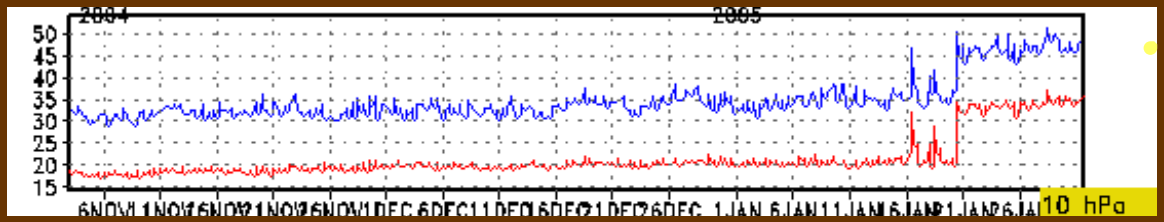


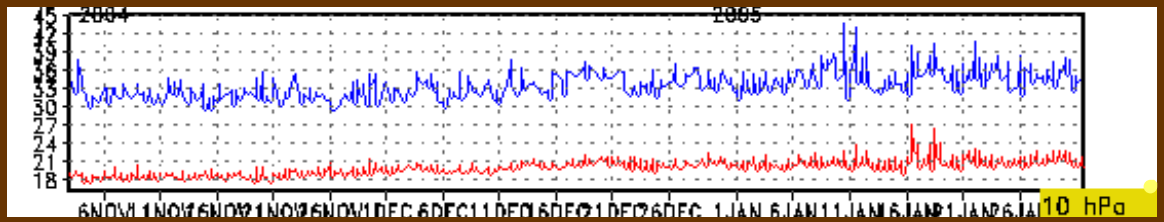
Jan 20: NOAA-16 AMSU-A Channels 9-14

Feb 1: NOAA-16 AMSU-A Channels 9-14

Feb 22: NOAA-14 SSU, MSU + HIRS added

Longer time series from first-look (top) and ceres (bottom) runs:





Time: November 1, 2004 – January 31, 2005

- The NOAA-16 AMSU-A channels were not turned off in ceres
- There are jumps in O-F on January 11, when NOAA-14 was turned on
- NOAA-14 added to first-look system on Feb 22

Instrument Teams' Reports

HIRDLS:

- Will use GEOS-4 T, O_3, H_2O to derive cross-track LOS gradient information
- Use first-look GEOS-4 T, H_2O, O_3 for a priori, zero-order validation
- Preparing to get numerous late-look GEOS-4 eta-level products for CTM

OMI:

- Not currently using meteorological data provided by DAAC

TES:

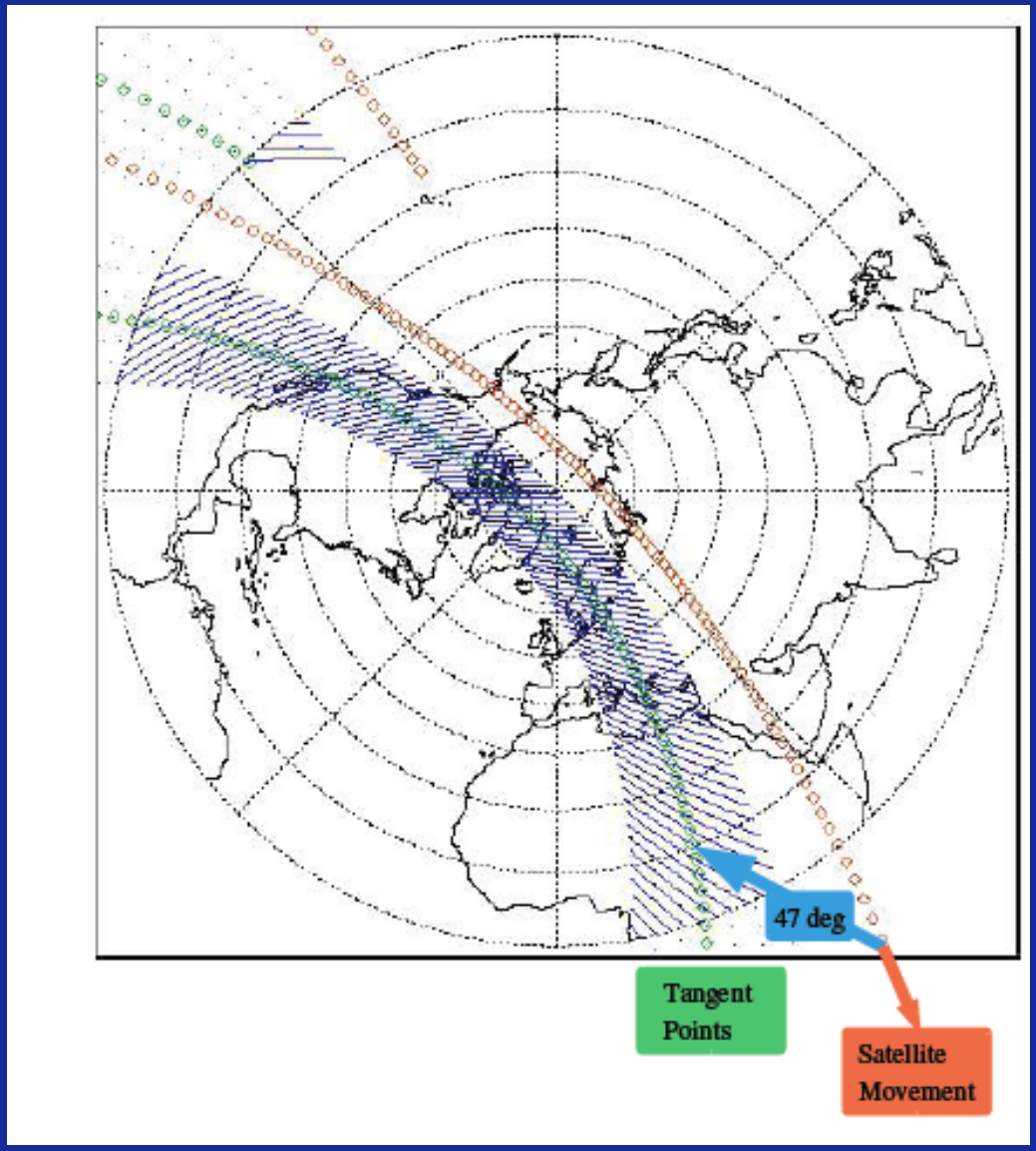
- Using GEOS-4 T and H_2O as a priori; also use skin temperature and surface pressure
- T and H_2O being used in intial analysis/validation of TES profiles

MLS:

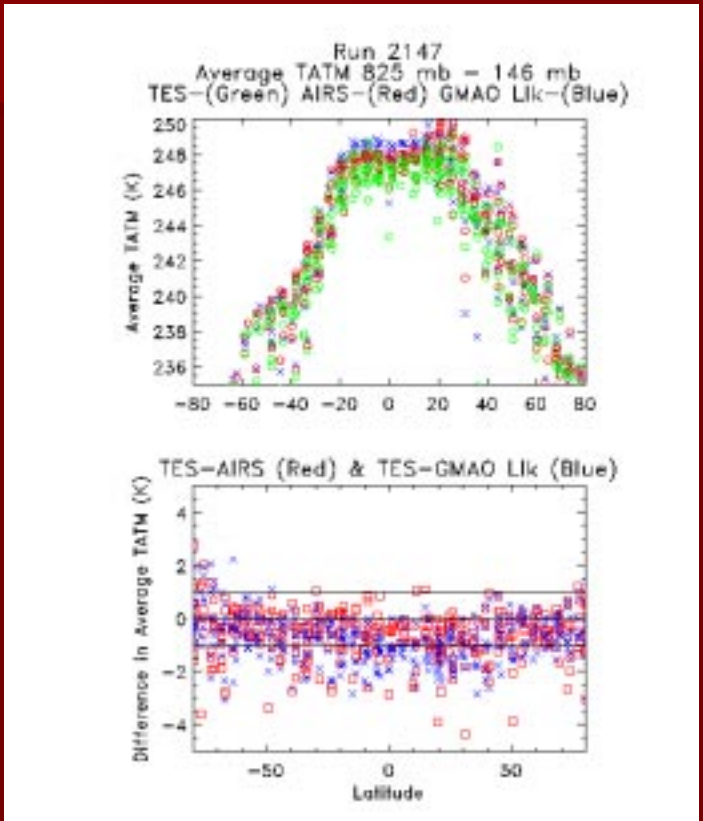
- Routinely receive GEOS-4 eta and pressure-level files, as well as NCEP/CPC and Met Office data
- Use GEOS-4 p-level T as a priori
- Use eta-level first and late-look files in inspection, routine analysis, science studies
- Several examples of use in routine inspection and for meteorological context
- Describe DMP (Derived Meteorological Product) files being produced/planned for SOSST instruments, MLS

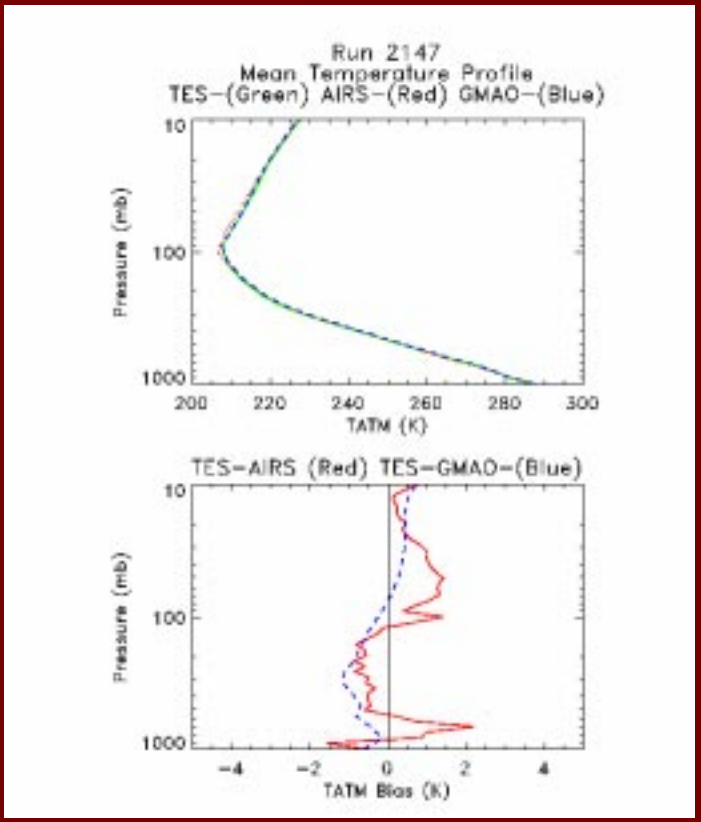
All teams report primarily positive experiences with data delivery, response from GMAO and DAAC

Use GMAO (T, O3, and H2O) for loss of Cross Track LOS gradients information



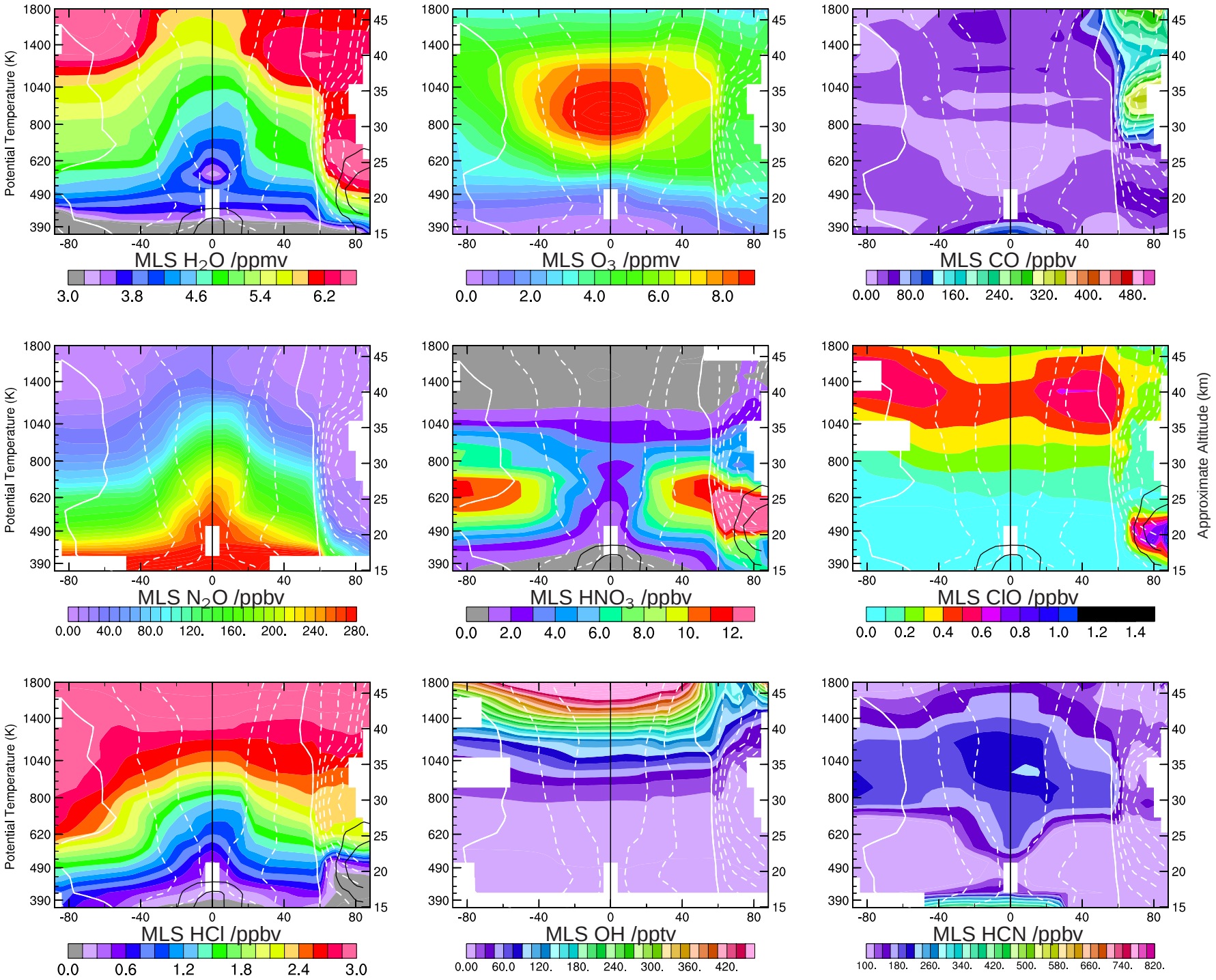
GMAO, TES & AIRS Average Temperature Comparison





- Average Temperature for GMAO, AIRS and TES for a TES Global Survey on Sep 20-21, 2004

EOS MLS Equivalent Latitude/θ Global Sections – 14 Feb 2005



Discussion Issues

Both GMAO and NCEP are interested in feedback to provide us with better “service” - contact Craig (Craig.Long@noaa.gov) and Steven (pawson@gmao.gsfc.nasa.gov) for NCEP and GMAO products, respectively, if you have suggestions, unmet meteorological data needs

A few issues to follow up:

- More easily available information on status of GEOS-4 data transfers from GMAO to DAAC and from DAAC to teams
- TES especially sees a need for better information on GEOS-4 error estimates to help improve their T and H_2O retrievals
- We forgot to discuss whether/when/where to have next meeting – will correspond with group offline regarding this when other, bigger meetings are settled

Some Relevant Talks/Posters

From skimming the agenda, several talks and posters in the plenary session are relevant in that they rely heavily on the meteorological datasets in their analyses or discuss modeling using meteorological datasets:

Oral Talks:

- Li et al – Thurs, 2:30 pm – UTLS transport modelling
- Manney et al – Thurs, 11:15 am – Meteorological context, coordinates
- Stajner et al – Thurs, 11:30 am – Ozone assimilation with GEOS-4

Posters (numbered as in final agenda):

8. Dunkerton & Scott – Validation for dynamical consistency using transport calculations
13. Jing et al – Cross-tropopause transport using PV mapping
16. Kawa et al – CTM using analyzed winds
18. Lary – Meteorological coordinates, chemical assimilation
21. Livesey et al – Meteorological context, coordinates
29. Pawson et al – GEOS-4 analyses for PAVE
41. Yang et al – Meteorological context for trend studies

XX. Manney/Santee et al – Meteorological coordinates in Arctic ozone loss studies

Undoubtedly others that were not obvious to me